

Remarks

Initially, it is noted that the Office Action indicates that the substitute specification filed on September 28, 2005 has not been entered because no marked-up version of the specification was received by the PTO. However, it is submitted that both clean and marked-up versions of the specification and abstract were submitted to the PTO on September 28, 2005. As evidence of the submission, a date-stamped postcard receipt indicating that both versions of the specification were submitted is enclosed herewith. Also enclosed are copies of the clean and marked-up versions of the specification. As a result, entry of the substitute specification originally filed on September 28, 2005 is respectfully requested.

Claim 1 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Inanaga (US 4,176,249) in view of Varla (US 6,373,956). This rejection is respectfully traversed and submitted to be inapplicable to the claim for the following reasons.

Claim 1 recites a speaker apparatus comprising, in part, a speaker unit including a main converter for converting an electrical signal into mechanical vibration, and a vibration plate for emitting sound waves to a front side of the main converter; a compensation converter fixed to a rear side of the main converter for converting an electrical signal into mechanical vibration, the compensation converter being smaller and lighter than the main converter; and a compensation mass body lighter than the vibration plate, the compensation mass body for serving as a load of mechanical vibration of the compensation converter. Some of the benefits of the present invention, as recited in claim 1, are that it is able to suppress vibration that is caused by reaction to movement of the vibration plate and suppress the emission of undesired sound, whereby sound quality with a good transient characteristic can be obtained. The combination of Inanaga and Varla fails to disclose or suggest the compensation converter being smaller and lighter than the main converter as recited in claim 1.

Inanaga discloses a speaker device including a first magnetic circuit 5A and a second magnetic circuit 5B connected to each other. Both the first and second magnetic circuits 5A and 5B are located in an enclosure 10. The first magnetic circuit 5A is attached to a vibratory member 8, a frame 9 and a baffle plate 11 for the generation of sound. The second magnetic circuit 5B is attached to a massive member 12 and is adapted to vibrate in a manner so as to oppose the vibrations of the first magnetic circuit 5A. Therefore, the vibrations of the second

magnetic circuit 5B cancel out the vibrations of the first magnetic circuit 5A. (See column 2, line 65 – column 4, line 23 and Figure 1).

As admitted in the rejection, Inanaga fails to disclose or suggest that the second magnetic circuit 5B is smaller and lighter than the first magnetic circuit 5A. As a result, Varla is relied upon as disclosing this feature of claim 1.

Regarding Varla, it discloses a loudspeaker having a driver unit 6 including a magnetic circuit 7, a radiating element 5, a frame 4, and an air displacing mechanism 8. The loudspeaker also includes one or more masses 1 that are connected to the magnetic circuit 7 or the frame 4 by attachments with elasticities 3 so as to reduce the amount of vibration of the loudspeaker. The masses 1 and elasticities 3 are selected such that they will resonate with the magnetic circuit 7 at frequencies that can be chosen so as to coincide with the resonant frequency of the magnetic circuit-frame system. During this selection process, the mass 1 is selected such that it has a weight that is approximately equal to the weight of the magnetic circuit 7 to determine the resonant frequency. Then, a mass 1 having a same order of magnitude as the magnetic circuit 7 and the elasticities 3 are chosen. In this way, it is possible to adjust and control the efficiency and the effective frequency range of the mechanical vibration reduction. (See column 3, line 28 – column 4, line 20; column 5, line 52 – column 6, line 18; and Figures 1-3).

In the rejection, it is indicated that the disclosure in Varla of the use of one or more masses 1 of suitable weight to perform vibration damping illustrates that it would have been obvious to one of ordinary skill in the art to modify the second magnetic circuit 5B in Inanaga to be smaller and lighter than the first magnetic circuit 5A. However, it is believed apparent that such a modification of the second magnetic circuit 5B is not suggested by the disclosure of Varla.

As discussed above, Varla discloses a loudspeaker where various masses 1 and elasticities 3 can be combined so as to reduce the amount of vibration of the loudspeaker. On the other hand, Inanaga relies on the second magnetic circuit 5B to generate vibrations to cancel out the vibrations created by the first magnetic circuit 5A, and thereby, reduce the vibrations of the speaker device as a whole. It is apparent that the references utilize completely different techniques for reducing vibration. Additionally, Varla does not disclose or suggest the intentional use of masses 1 that are smaller and lighter than the magnetic circuit 7. Instead, Varla discloses that the weight of the masses 1 are of the same order of magnitude as that of the

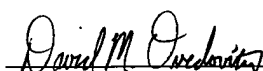
magnetic circuit 7, and that the weight of the masses 1 are selected solely based on the damping effect in conjunction with the elasticities 3. Therefore, it would not have been obvious to one of ordinary skill in the art to reduce the size and weight of the second magnetic circuit 5B as compared to that of the first magnetic circuit 5A in view of the masses 1 of different weights in Varla because the two vibration reduction methods operate based on different principles and nothing disclosed or suggested by Varla leads to the modification of the second magnetic circuit 5B as suggested in the rejection. As a result, the combination of Inanaga and Varla is improper and fails to render the present invention as recited in claim 1 obvious.

Because of the above-mentioned distinctions, it is believed clear that claim 1 is allowable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claim 1. Therefore, it is submitted that claim 1 is clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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